

Accelerator Division EH&S Highlights February 2003

ODH Alarms Now in CEBAF Arcs

Arc ODH alarms are now connected to the main system. However, the system will not be complete until the ODH system test is conducted during certification the week of March 10-14, 2003.

Water Found in Hall C HMS Magnet Housing

Hall C found a collection of ~ 50 gallons of condensate water inside a HMS magnet housing. Apparently it was due to cryogenic cooling of this enclosure, pulling moisture from ambient air. RadCon Group sampled the water prior to releasing it to floor drain. There was no particulate activity. H3 activity was about 35,000 pCi/l - drinking water standard is 20,000 pCi/l for reference.

Electrical Insulating Gloves Testing Requirements

The IH Group received a request for information on electrical insulating gloves that do not have to meet any retesting requirements per OSHA. Specifically, there was a misconception that Class 00 gloves did not have to meet a six month retest requirement. According to the manufacturer, the glove does have to meet retest requirements. However, the gloves are inexpensive enough that it is more cost effective to discard them and purchase new gloves than it is to retest them. An EHSLOG with this information was posted.

Procedure for Hall C Beamline Cleaning

The IH Group performed a hazard analysis for the Hall C beamline cleaning. Cleaning the beamline is necessary to prepare it for vacuum conditions. The cleaner is an acid blend, consisting of hydrofluoric and phosphoric acid, similar to our BCP mix, with two important exceptions:

1. No nitric acid content, therefore emissions will not contain NO_x, only HF
2. Aluminum is used as substrate, with low concentrations of HF and H₃PO₄.

A TOSP will address disposal of the concentrated acid, the rinsewater, and protection of the environment around the Acid Transfer Building.

Opening Penetrations Causes Temporary Change to ODH Rating

Penetrations have been opened in order to investigate the source of water leaks. There was a misunderstanding about the ODH conditions in the service buildings when penetrations are opened. Opening penetrations in the ARCs does not result in an increase in ODH rating in the service buildings above. However, opening penetrations in the Linacs does result in an increase in ODH rating in the service building racks above, from ODH 0 to ODH 1.

Accelerator Pre-shutdown Safety Briefing

The Accelerator Division conducted a safety briefing, led by the Engineering Department Head, prior to the start of the February 2003 shutdown. The practice of pre-shutdown safety briefings began in 2001. This was the fourth briefing of its kind. Topics covered included: Accident/Incident Trends, Lockout/Tagout Review, Hazard Identification and Work Planning, RadCon Reminders, and Overview of Shutdown Activities. Briefing attendance was mandatory and information was well received. Staff feedback after the

Accelerator Division EH&S Highlights

February 2003

briefing identified the Accident/Incident Trends and the Overview of Shutdown Activities as the two most valued presentations.

CEBAF General Radiation Work Permit (RWP) Available Online

The CEBAF general RWP is now available online. A copy of the RWP is available in the Radcon group folder (m\radcon\training\training docs\GAP2003.doc). You may also access the RWP from the EH&S T3 online tracking system home page. Select the RWP from the scrolling menu on the left side of the page. All staff that must enter the accelerator enclosure are still required to sign the RWP prior to entry. Copies of the RWP for signature are posted in the control rooms at the MCC, Counting House, and FEL. A copy is also available at the RadCon Trailer, T52A.

Science Teacher Workshop on Radiation

Keith Welch participated in the Science Teacher Workshop on Radiation sponsored by Va. Power at their Innsbruck, Va. HQ. The workshop serves to educate and equip science teachers to deal with the misinformation found in the media and often found in science texts currently in use in the class room. It is a fun, hands-on experience, and the teachers leave with equipment to use in their own classrooms. Volunteers under the auspices of the Virginia Chapter, Health Physics Society members, present the workshop. It gets rave reviews by the teachers.

New Lead Safety Class

A lead safety class was developed at the request of the EES group. With Dr. Chandler's assistance, a one hour presentation was given to the group, and it was successful, with good audience participation. The IH group will arrange for a SAF number for the class so that this class can be available to all JLab staff.

Kneepads Now Available

Based on a Target Group audit, Hugh Williams identified the hazard of working while kneeling on concrete for extended periods of time. Hugh and Bill Brisiel had a vendor come onsite to show knee pads to the workers. There was a good turnout from Accelerator and Physics Division. We learned that there is a need that we had not anticipated in our Vacuum and Installation groups. The Safety Lab will stock a few of the knee pads, and the Stock Room will stock the less expensive ones.

10CFR835 Assessment Plan and Health Physics Society Meeting

Bob assisted with a 10CFR835 Assessment Plan review at Argonne National Lab. Bob and Keith both attended the Health Physics Society meeting in San Antonio for a couple of days. Keith was there to meet with National Registry, Radiation Protection Technologist Exam Board. Bob attended a meeting on homeland security initiatives in radiation protection.

GERT and RadWorker I Computer-Based Training Now Available

RadCon switched over to computer assisted training and testing for GERT and computer assisted training for RadWorker I. This has caused problems for our subcontractor clientele who do not have experience using computers. RadCon has agreed to hold

Accelerator Division EH&S Highlights February 2003

quarterly full classroom RadWorker I Training sessions to facilitate subcontractor training. They will also update and clarify our current training policy.

Personnel Safety System (PSS) Certification Scheduled

Senior management authorized postponement of the regularly scheduled PSS certification, which was due in December 2002. The certification is now scheduled for March 10-14, 2003. The last full certification was conducted in April 2002.

SNS PSS and ODH Systems Review

The Safety Systems Group Leader and Deputy reviewed the SNS personnel protection system software infrastructure. Several suggestions for improvement in documentation and process were extended. They also discussed the proposed SNS ODH system. Again, constructive recommendations were made.

Propane Heater Exhausts Carbon Monoxide into Work Area

IH Group staff responded to an odor complaint in the BSY Service Building. They traced the problem back to a propane heater used in Bldg. 98 with inadequate ventilation that caused workers in the adjacent work area to develop headaches, nausea, and eye irritation. Affected workers were seen by Medical Services. The IH Group is investigating the incident.

Hall A Waterfall Target's Beryllium Windows Intact

Waterfall target was removed from Hall A. The IH Group sampled the beryllium windows to ensure that there still is no removable beryllium. Windows tested negative for removable beryllium.

Forklift Availability

Forklift equipment is old, parts are scarce and repairs are projected to take longer and to be more expensive. A recent bankruptcy has exacerbated this situation. The lab needs to budget for purchase of new forklifts to replace aging equipment very soon.

Administration Division Notes for EH&S Committee

For meeting of 3/7/2003

Facilities Management

Projects with EH&S Implications

- CEBAF Center Controls - Work scope includes installation of Direct Digital Controls (DDCs) on existing HVAC systems to reduce energy consumption. The subcontract was awarded to Johnson Controls on 1/10. Work will begin on 3/3. (PM - Jones/Whitlatch) Est. Construction Completion 5/13/03

Central Chiller Utility (Energy project)

- Acid Neutralization System Building - Fiberglass doors have been delivered and Phase I work started the week of 2/17. The revised progress schedule has been approved. (PM - Chandra) Subcontract Completion Date (SCD) 5/30/03

ARC Building

- Modification to Gas Shed (install CMU partitions to segregate oxidizers from combustible gases) – Work started the week of 2/17. ECD: 3/30/03. (PM – Chandra)
- Handrail and Ladder for Computer Center Cooling Tower – Proposals were received on 2/19. Anticipate award the week of 2/24. ECD: 4/30/03. (PM – Chandra)

Emergency Management

There is a newly redesigned home page for Emergency Management, and much of the content has been updated. <http://www.jlab.org/intralab/emergency/> Many thanks to Shannan Kyte for her assistance.

I attended a recent seminar on disaster recovery for businesses. This is a term more commonly used than “emergency management” in much of the private sector. The scope and issues are essentially the same, however. My main objective in attending was to get some insights on emergency preparedness and response/recovery tactics from a “best-practices” perspective. A couple of “nuggets” from the event:

- It’s impossible that testing a plan can result in failure. If it works, good. If it doesn’t, good that you know that now and can improve it.
- If you can’t do without something (information, equipment, workspace, etc.), you need...

Redundancy and/or

Protection in depth

Relocation site (selected in advance) with equivalent resources

- Keep it simple. The “nuts and bolts” portion of an emergency management plan ought to fit in a pocket or car glove compartment.
- Don’t overlook employee welfare in planning and response.

- In general, adaptive strategies are better than detailed procedures.

A conclusion: Overall, JLab's emergency management approach would be viewed as very detailed and robust in the business world.

The replacement of the emergency action cards on telephones is progressing well. Remaining buildings include a portion of CEBAF Center, EEL, ARC, and a number of trailers.

EH&S Training

The electrical safety, etc. sessions conducted by Dr. Lloyd Gordon were well attended – way beyond the most optimistic expectations, in fact.

- Electrical Safe Work Practices - 177
- Basics of R&D Grounding & Shielding - 95
- Pulsed Power Safety - 73
- Radio Frequency & Microwave Safety - 102

**Physics Division
EH&S Activities
February
2003**

For the month – The Hall A Group completed Experiment E01-012 and began installation of the septum magnet for upcoming experiments, the Hall B Group conducted drift chamber maintenance on the CEBAF Large Acceptance Spectrometer and the Hall C Group relocated the G0 experimental apparatus and began experimental equipment installation for upcoming experiments. Oversight and assistance was the EH&S Group priority.

Experimental Readiness and Work Control Documents

Reference Jefferson Lab EH&S Manual Chapter 3120 – Experimental Review, and Chapter 3320 - Temporary Work Permits.

There was one new Operational Safety Procedures given final approval.

*PHY-03-002 “Amplifier Discriminator Board Power Supply Replacement and
Adjustment of the Amplifier Discriminator Board Power card Enclosure”
Fast Electronics Group*

There was one new Standard Operating Procedure given final approval.

PHY-03-001 “Beam Tube Cleaning for Hall C” Hal C Group / Bldg. 31 outside

There was one experiment review on February 6, a *Readiness Review for Deeply Virtual Compton Scattering at 6 GeV, Experiment E 00-110*. Members of the committee include: Bernhard Mecking (chair), Hari Areti, John Domingo, Howard Fenker, Ed Folts, Bert Manzlak and Elton Smith. The experiment should be ready for March 1, 2004.

There was no new Experiment Readiness Certificates or Temporary Operational Safety Procedures.

Inspections

Reference Jefferson Lab EH&S Manual Chapter 5100 - Internal Inspections.

Five scheduled formal inspections identified six new recordable action items, one remains open. Along with the division EH&S staff, *DSO, Dennis Skopik, Accelerator Division Engineering Head, Will Oren, and Area Safety Wardens, Walter Kellner, and Doug Tilles* assisted in inspection of the experimental halls, and *Radiation Control Group Head, Bob May, Area Safety Warden Brian Kross, and the EEL Building Manager, Jack Segal* assisted division EH&S staff on inspection of Experimental Equipment Laboratory.

END



EH&S Reporting Activities for February 2003

- As of February 28th, there have been **204** days without a lost-time injury. The Lab record is **455** consecutive days without a lost-time injury. There were no recordable injuries to JLab or contractor staff in February. **LET'S KEEP UP THE GOOD WORK!!!**
- Office of Assessment staff participated in weekly conference calls in February on a current National Laboratory Improvement Council (NLIC) initiative. The NLIC initiative is related to developing an improved format for quarterly EH&S and operational event summaries. These summaries are provided to Dr. Ray Orbach, Office of Science (SC) Director. The ten SC laboratories participated in the conference calls that were coordinated by the Oak Ridge National Laboratory EH&S/QA organization. A prototype reporting format with site specific EH&S and related operational information (current events) is being developed by this group.
- A DOE request for current JLab environmental liability information was received from the DOE Site Office. DOE report criteria and definitions are being reviewed for the Lab response.
- **External Reporting**
 - EH&S Reporting screened a recent JLab event for Price-Anderson reporting as the event involved worker radiation protection issues. The event involved the December 2002 discovery of a JLab staff member who made repeated accelerator site accesses with expired radiation training. This event did not require immediate reporting under the Price-Anderson Amendments Act; however, the event is being tracked for future similar or related programmatic events. Future events may be reportable if they indicate that the Lab's corrective actions for this event were ineffective.
- EH&S Reporting and DOE Site Office staff participated in a February 25-26th video conference on the new DOE Order 450.1, *Environmental Protection Program*. JLab and the Site Office will be reviewing the new order to determine the applicability of specific provisions to JLab activities. The new order requires that all DOE environmental programs include an Environmental Management System approach by FY 2005.
- A Waste Minimization/Pollution Prevention Task Group Meeting was held February 27th. A number of interesting items and initiatives were discussed including:
 - JLab now has 16 recycling centers; 8 are full service; 8 are satellite areas (partial service).
 - A Green catalogue of recycled content items for JLab purchasing will be available in March. All staff are encouraged to increase **GREEN** purchasing in 2003.

- Site Initiatives

- Walter Kellner discovered a collection of scrap steel, gravel, and other materials in the Bone Yard. He set up a welding practice session, using several JLab staff members from Hall C to build a MONSTER crusher from these materials. The contents of trash and aluminum containers can be crushed up to three times before having to arrange pickup, saving the Lab resources. More information can be viewed on the February EarthWise website at <http://www.jlab.org/intralab/earthwise/index.html>.
- Hall C has begun segregating radioactive waste products into metal and non-metal containers, improving their material management practices and, at the same time, making it easier for RadCon to manage the waste.
- L. T. Yarrington conducted a study and identified a JLab hazard and a solution involving steel-toed shoes. Yarrington received a monetary award for this initiative.
- Charles Hightower had the JLab Machine Shop build some propane cylinder containments for the halls.
- The EarthWise web page and EarthWatcher newsletter can be viewed at the above [http](http://www.jlab.org/intralab/earthwise/index.html) address. JLab staff are encouraged to send in any new ideas for future articles for either the website or the next issue of the EarthWatcher newsletter.

- Earth Day is Tuesday, April 22, and JLab is planning an activity around that time.

➤ Work Smart Standards (WSS) Set

- Proposed 2002 changes to the WSS Set, including the proposed addition of a local terrorist response plan, have entered the WSS change process.
- EH&S Reporting is working with the Policy and Manuals Group to ensure new or modified hazards or standards become addressed appropriately in the EH&S Manual.

➤ National Environmental Policy Act (NEPA)

- CEBAF and FEL Upgrade Environmental Assessment (EA)
 - The DOE Site Office is finalizing the team charter.
 - Proposed Action/Project Information Checklists are being prepared. The FEL draft checklist has been started.
- EH&S Reporting is working with other laboratory staff to address other NEPA items, including actions related to the new CEBAF Center addition construction project.